CLJ2500 - Light Print on Left-Side of Page??

17/4/03 (Updated 20/5/03) - Subject to Change - Contributions from Mal Richardson, UK- Gary McGaw, UK & Bob Edwards, ATS - Company Confidential

Customer complains of Light print on the left-hand-side(LHS) of the page. At its worst the whole page can be blank?

- **Align LH side Carousel Gear, which causes this fading PQ issue. This gear is shown in Fig.2 below.**
- **The Service Manual for this alignment does not show all the issues and problems that have been encountered when removing carousel for this alignment. So read this document carefully, especially if you are less experienced on these products and you will prevent damage and fix the product a lot faster.**

Problem Description:

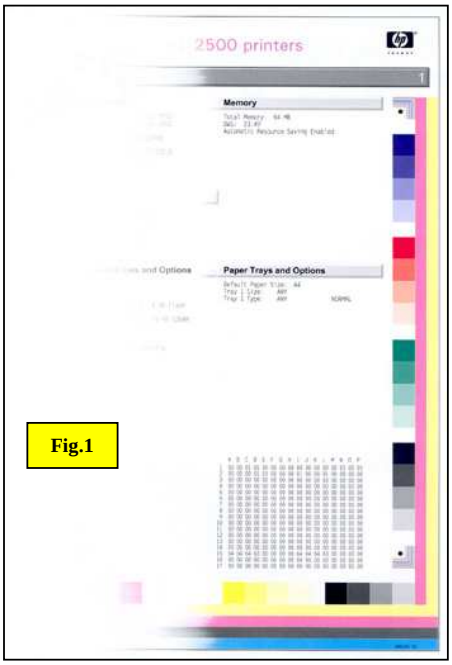


Fig.1

Customer complains of Light print on the left-hand-side (LHS) of the page. At its worst the whole page can be blank? (See **Fig.1** Print Quality Defect):

Cause:

This is caused by the misalignment of the Print Cartridge Carousel. In this case the LHS gear becomes misaligned, but the RHS gear stays aligned. It is NOT known why this alignment appears to become misadjusted (see **Fig.2** below).

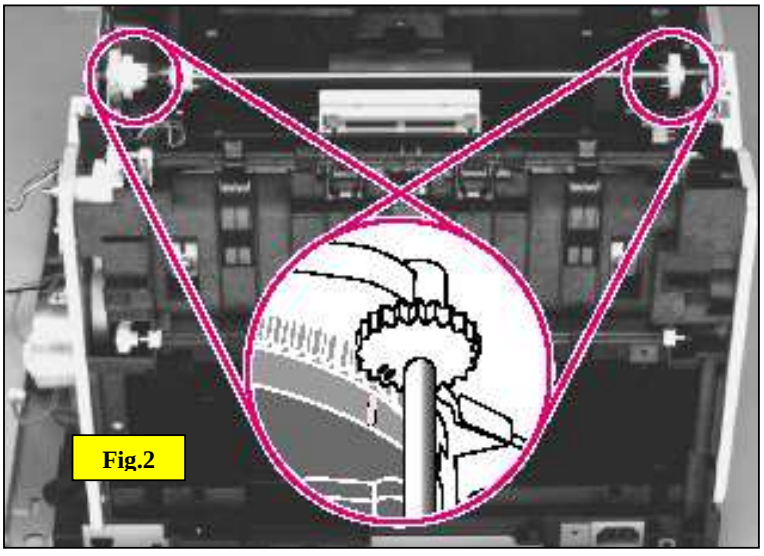


Fig.2

What is known when the carousel is replaced or realigned; if the engineer does not take care, this PQ defect it may result in the possibility Engineer caused damage.

This document is designed to compliment the Service Manual. The objective of this document is not only to advise the causes of this problem, but also to provide tips to assist in the alignment adjustment without incurring damage.

Alignment of the Carousel:

CAUTION!!! Correct alignment of this adjustment (see **Fig.2** above) is ***CRITICAL***. The service manual does not provide enough detail of the possible Gotcha's when removing Carousel to perform this alignment.

Gotcha-1: *Remove Carousel for Gear Alignment?*

ALWAY's remove Carousel when performing this adjustment, otherwise you could damage the printer!

Carousel Removal & Tips:

Step.1.- Remove the following covers and assemblies:
Refer to Service Manual
• right- and left-side covers (see page 93)
• interface cover (see page 98)
• formatter cage (see page 99)
• back cover (see page 110)
• top cover (see page 111)

Gotcha-2: *Note Relative Position of Drive Gears*

Please note the relative position of of the flat gear (Callout 6) to the black gear (Callout 5) when removing black gear, **see Fig 2a** below. **ENSURE** it is returned in exactly the same position.

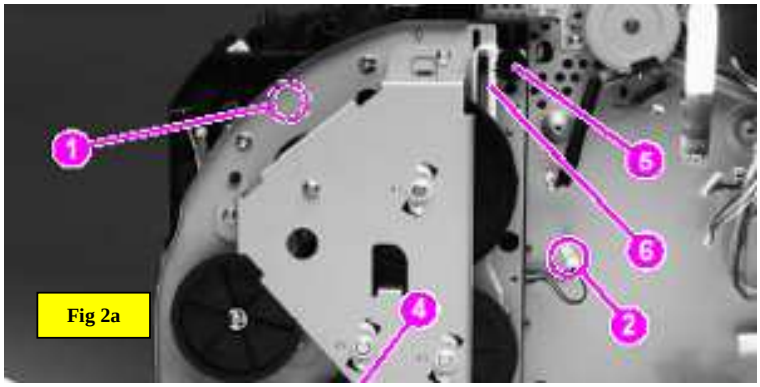


Fig 2a

• Air duct (see page 115)
• Rotary-drive assembly (see page 128)
• Top plate (see page 131)!

Gotcha-3: *CAUTION Damage to Limit Switch?*

When removing top-plate it is very easy to damage the Limit-switch *(P/N is RH7-6051-000CN MICROSWITCH.)* Also, when reinstalling this plate, be aware this cable can easily be trapped **(See Fig.2b).**

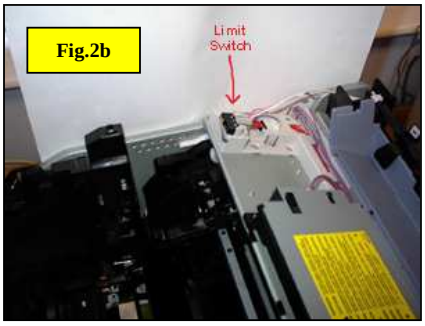


Fig.2b

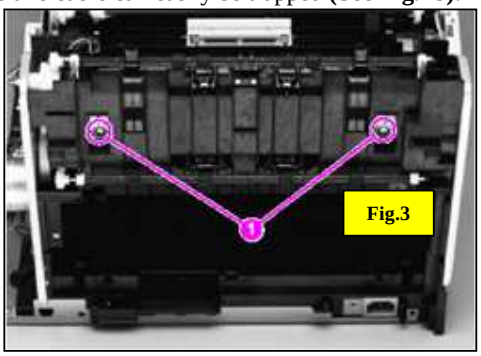


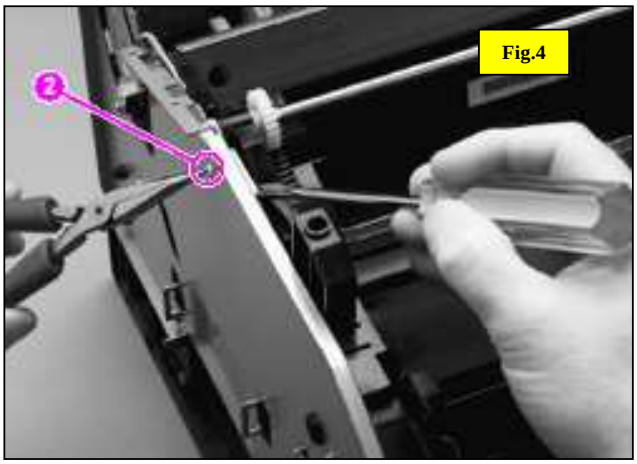
Fig.3

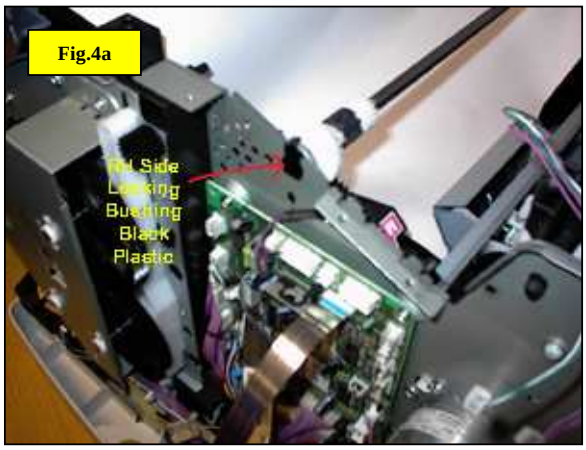
Step 2. - Remove two screws (callout 1 - Fig 3) from the back of the printer.

Gotcha-4: *Forget to Reinstall 2 Screws at Back of Printer!!*

Because the remainders of the print-cartridge carousel removal procedures are performed from the left, right, and front of the printer, it is easy to forget to replace the two screws at the back of the printer (**See Fig.3** above).

Step 3. - Press the white plastic tab (callout 2 **– Fig.4**) at the left side of the printer to release the left **White plastic** swing-shaft bushing *(RB2-9809-000CN Left Swing-Shaft Bushing),* and then rotate the bushing to a vertical position.





Step 4. - On the right side of the printer, perform the action described in step 3 on the right side black swing-shaft bushing.

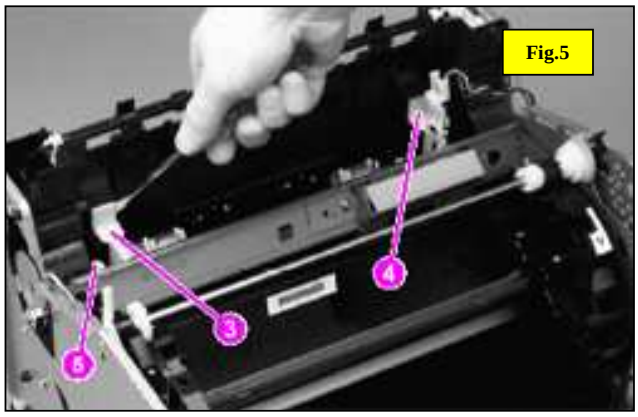
Note: Fig.4a shows the RHS of the printer.

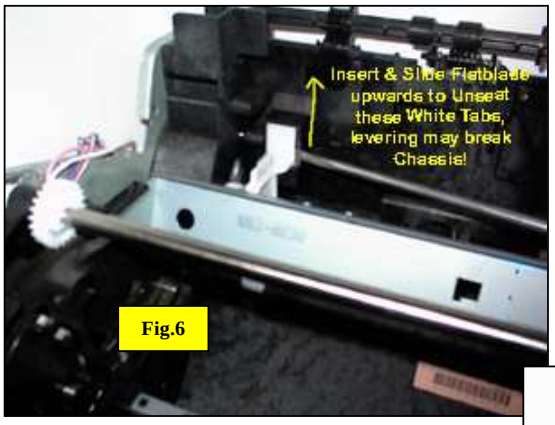
Gotcha-5: *RHS Swing-Shaft-Bushing Damage!!*

The right **black plastic** swing-shaft bushing is thin and delicate and is easily broken. Be very careful in rotating the bushing in either direction, over rotation will break this quite fragile part. It should be rotated to the vertical position, do not go past this point otherwise it will break. (See **Fig.4a**) **Note:** In April 03 the parts request for this part for EMEA was 81, this is probably due to breakage caused by engineer. *P/N is RB2-9808-000CN Right Swing Shaft Bushing*

Gotcha-6: *Pressure-Shaft-Holders - DO NOT lever on Frame!!*

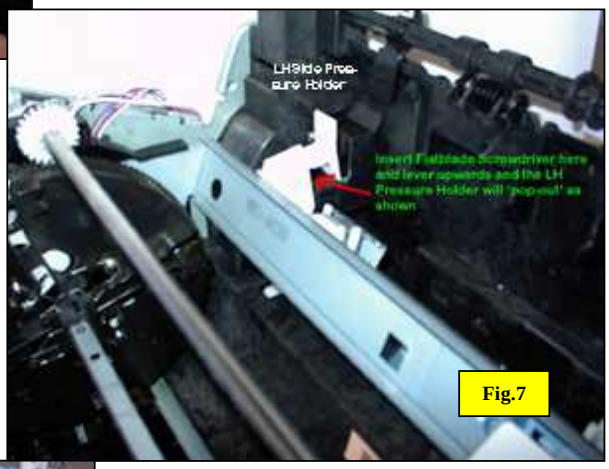
Step 5. - Note locations of Left & Right Pressure-Shaft-holders (See **Fig.5**), and then examine the positions of the left pressure-shaft holder (callout 3), the right pressure-shaft holder (callout 4), and the pressure-shaft gear (callout 5) before you perform this step. The pressure-shaft holders must be reinstalled to their correct positions when reinstalling the print-cartridge carousel.



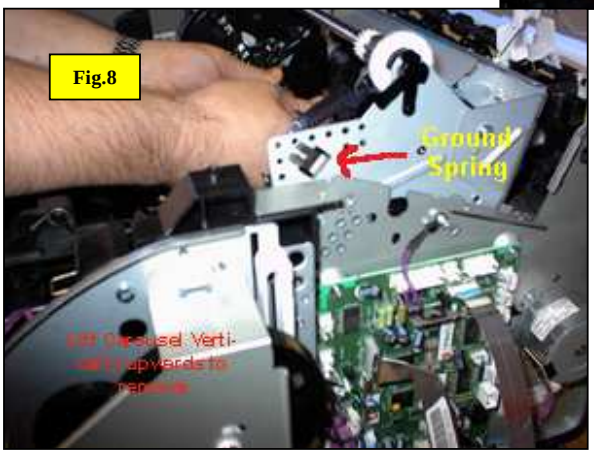


Step 5a. - Use the flat blade screwdriver to pry two white tabs on the pressure-shaft holders from their seated positions in the rear frame assembly. **Gotcha-6: *DO NOT*** lever on frame, otherwise the frame may break. Simply insert flat blade at bottom as shown in **Fig.6** & slide upwards to release.

Note: - **Fig.7** shows the pressure-shaft holders are the unlatched forward position. To get the LH side Pressure Holder to pop-out as seen in **Fig.7** simply place a flat blade screwdriver under Pressure Holder as shown below, rotate the screwdriver. This action will lift this part and it should pop-out to the position shown in this photo.



Step 5b. - Repeat with RHS pressure-shaft holders.



Step 6. - Lift the print-cartridge carousel vertically out of the printer, note lift points, DO NOT lift out by using the more fragile parts of the carousel, i.e. the timing gear shaft

Gotcha-7: *CAUTION* Carousel Grounding Spring Damage!!

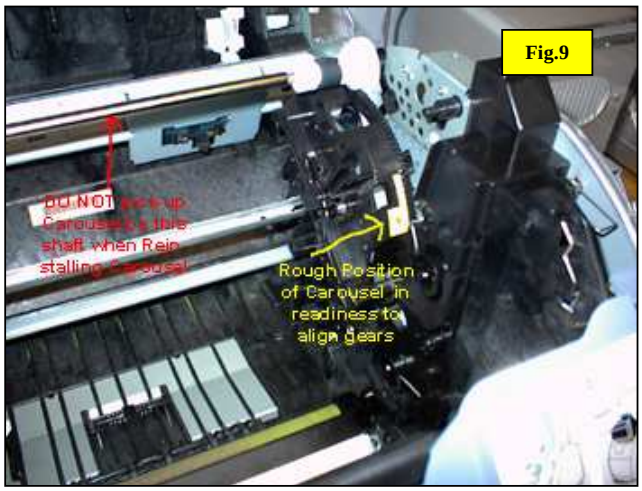
It is very easy to damage the Grounding Spring shown in **Fig .8** above when removing the Carousel.

Carousel Reinstall & Tips:

Step I - Carousel Assembly re-installation:
NOTE:- It is Critical to get timing notches on both left & right set exactly, if it is ONLY one gear tooth out fading PQ will result. **(See Fig 1 & 2**) Again **ALWAYS** recheck before reassembling the printer.

Gotcha-8: *CAUTION when Reinstalling Carousel Assy!!*

When lifting Carousel assy back into position DO NOT use timing gear shaft to lift it into position, otherwise damage will occur **(See Fig.9**).


DO NOT pick up Carousel by this shaft when Reinstalling Carousel
Rough Position of Carousel in readiness to align gears
Fig.9

Gotcha-9: *Carousel Gear Alignment Hint!*

Position the yellow Cart ID tag as shown in **Fig.9** above. This will provide an approximate position to commence gear timing. With this fault always check alignment-timing gear notches on RHS first, normally this will be OK and the LHS will require aligning.

Gotcha-10: *Pressure Shaft Gear!*

It is essential to ENSURE the notch in the pressure shaft gear points downwards as **Fig.10** shows below before reinstalling Carousel Assy. Note this notch has been 'blackened' to facilitate easier viewing:

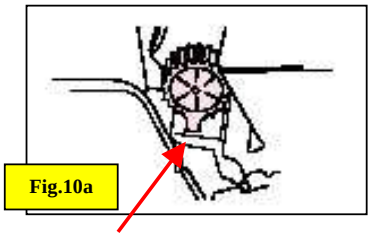


Fig.10a

Graphical representation of the Pressure-Shaft-Gear shown in Fig.10a.

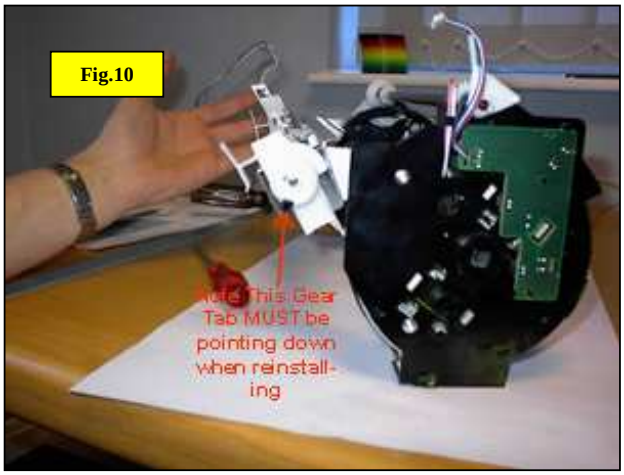


Fig.10

Gotcha-11: *Carousel Timing Shaft Split-Pin Lost?*

Fig.11 shows the location of the timing gear on the LHS where if this shaft is removed the split-pin securing this gear to its shaft can be easily LOST if care is not taken:

Step II - **Pressure Shaft Holder reinstall:**
Reference **Fig.5** above for location of these 2 parts.

Gotcha-12: *Pressure Shaft Holders Top & Bottom Installed Correctly??*

It is CRITICAL to ensure the bottom of these parts latch underneath the frame as LH Graphics in **Fig.11a** shows below.

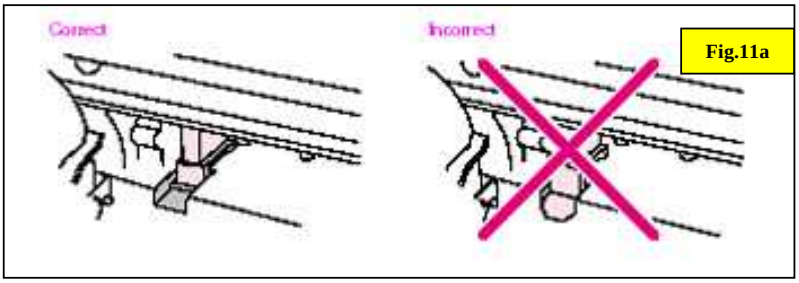


Fig 7 above shows the top part leaning forward when it was released, Ensure the top is also latched in correctly as shown in **Fig.6:** (Shows normal operational position)

Gotcha-13: Reminder - Forget to Install 2 Screws at Back??

Do not forget to install these 2 screws (see **Fig.3** above).

Gotcha-13: Reminder - Possible Damage to Limit Switch Top Plate?

- Please note it is very easy to damage this limit switch, please be careful (See Fig.2b).
- Ensure cables near limit switch are threaded through top plate otherwise they may be trapped.
- Also note cable at back RHS of Top Plate when reinstalling, these cables can become trapped if care is NOT taken re-installing this top-plate.

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